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a source electrode connected to the source diffusion region;
 a drain diffusion region of the second conductivity type disposed within the first region;
 a drain electrode connected to the drain diffusion region;
 a buried region of the first conductivity type disposed within the first region, a first conduction channel being formed above the buried region and a second conduction channel being formed below the buried region, the buried region being spaced-apart from the drain diffusion region; and
 an insulated gate formed over the channel region.

wherein a doped impurity concentration in the 1st region above the buried region being about $1 \times 10^{12}/\text{cm}^2$ or greater.
 Claim 12 should be replaced with:

12. (Amended) A high voltage field-effect transistor (HVFET) comprising:

a substrate of a first conductivity type;

a first region of a second conductivity type disposed within the substrate;

a source diffusion region disposed in the substrate spaced-apart from the first region, an IGFET channel region being formed between the source diffusion region and the first region;

a drain diffusion region disposed in the first region;

a buried region of said first conductivity type disposed ~~within~~ ^{of said} the first region, the buried region forming JFET channels within the first region, one JFET channel being

formed above the buried region with a doped impurity concentration of approximately $1 \times$

$10^{12}/\text{cm}^2$ ^{of said} or greater and another JFET channel below the buried region, the buried region

being spaced-apart from the drain diffusion region;

an insulated gate formed above the IGFET channel region.

Claim 68 should be replaced with:

68. (Amended) A high voltage field-effect transistor (HVFET) comprising:

a substrate of a first conductivity type;

a first region of a second conductivity type disposed in the substrate, the first region having a laterally extended portion that forms a lateral boundary with the substrate; ?

a drain diffusion region of the second conductivity type disposed in the first region and separated from the lateral boundary by the laterally extended portion;

a second region of the first conductivity type disposed in the substrate;

a source diffusion region of the second conductivity type disposed in the second region, a channel region being formed between the source diffusion region and the lateral boundary;

an insulated gate disposed above the channel region;

a buried region of the first conductivity type sandwiched within the laterally extended portion of the first region to form a junction field-effect device in which current flows in the first region both above and below the buried region, a doped impurity concentration in the first region above the buried region being about $1 \times 10^{12}/\text{cm}^2$ or greater.

Claim 77 should be replaced with:

77. (Amended) A high voltage field-effect transistor (HVFT) comprising:

a substrate of a first conductivity type;

a first region of a second conductivity type disposed in the substrate, the first region having a laterally extended portion that forms a lateral boundary with the substrate;

a drain diffusion region of the second conductivity type disposed in the first region and separated from the lateral boundary by the laterally extended portion;

a source diffusion region of the second conductivity type disposed in the substrate and spaced-apart from the lateral boundary of the first region, a channel region being formed between the source diffusion region and the lateral boundary;

an insulated gate disposed above the channel region;

a first buried layer of the first conductivity type disposed in the substrate beneath the source diffusion region;

Cont D3
a second buried layer of the first conductivity type sandwiched within the laterally extended portion of the first region and spaced-apart from the lateral boundary so as to act as an effective gate controlling dual current channels in the first region both above and below the second buried layer, a doped impurity concentration in the first region above the second buried region being about $1 \times 10^{12}/\text{cm}^2$ or greater. (1)

(2) + separate,

Claim 104 should be replaced with:

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104. (Amended) The HVFET according to claim 1 wherein the buried region has a doped impurity concentration approximately twice that of the first conduction channel.

1
[Claim 105 should be replaced with:]

105. (Amended) The HVFET according to claim 1 wherein the buried region has a doped impurity concentration of approximately $2 \times 10^{12}/\text{cm}^2$.

[Claim 106 should be replaced with:]

106. (Amended) The HVFET according to claim 1 wherein the second conduction channel has a doped impurity concentration of approximately $2 \times 10^{12}/\text{cm}^2$.

Claim 110 should be replaced with:

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110. (Amended) The HVFET according to claim 12 wherein the buried region has a doped impurity concentration approximately twice that of ~~the one~~ ^{the} JFET channel *above the buried region.*

same one of said JFET channels

15
Claim 111 should be replaced with:

110
111. (Amended) The HVFET according to claim ~~12~~ wherein the buried region has a doped impurity concentration of approximately $2 \times 10^{12}/\text{cm}^2$.

Claim 112 should be replaced with:

112. (Amended) The HVFET according to claim ~~12~~ wherein the another JFET channel ^{of said JET channels} has a doped impurity concentration of approximately $2 \times 10^{12}/\text{cm}^2$.

Claim 116 should be replaced with:

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116. (Amended) The HVFET according to claim 68 wherein the buried region has a doped impurity concentration approximately twice that of the first region above the buried layer.

Claim 117 should be replaced with:

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117. (Amended) The HVFET according to claim ~~68~~ wherein the buried region has a doped impurity concentration of approximately $2 \times 10^{12}/\text{cm}^2$.

Claim 118 should be replaced with:

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118. (Amended) The HVFET according to claim ~~68~~ wherein the first region below the buried layer has a doped impurity concentration of approximately $2 \times 10^{12}/\text{cm}^2$.

Claim 122 should be replaced with:

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122. (Amended) The HVFET according to claim 77 wherein the second buried region has a doped impurity concentration approximately twice that of the first region above the second buried layer.

Claim 123 should be replaced with:

123. (Amended) The HVFET according to claim ~~77~~¹²² wherein the second buried region has a doped impurity concentration of approximately $2 \times 10^{12}/\text{cm}^2$.

Claim 124 should be replaced with:

124. (Amended) The HVFET according to claim ~~77~~¹²³ wherein the first region below the second buried layer has a doped impurity concentration of approximately $2 \times 10^{12}/\text{cm}^2$.

Please add the following new claims to the application.

129 (New) A high voltage field-effect transistor (HVFET) comprising:

- 1 a substrate of a first conductivity type;
- 2
- 3 a first region of a second conductivity type disposed within the substrate;
- 4 a source diffusion region of the second conductivity type disposed in the
- 5 substrate spaced-apart from the first region, a channel region being formed in the
- 6 substrate between the source diffusion region and the first region;
- 7 a source electrode connected to the source diffusion region;
- 8 a drain diffusion region of the second conductivity type disposed within the
- 9 first region;
- 10 a drain electrode connected to the drain diffusion region;
- 11 a buried region of the first conductivity type disposed within the first region, a
- 12 first conduction channel being formed above the buried region and a second
- 13 conduction channel being formed below the buried region, the first conduction
- 14 channel having a doped impurity concentration of $1 \times 10^{12}/\text{cm}^2$ or greater, the buried
- 15 region being spaced-apart from the drain diffusion region; and

an insulated gate formed over the channel region.

130

128. (New) The HVFET according to claim 127 further comprising:

a second region of the first conductivity type disposed within the substrate,
the source diffusion region being disposed within the second region.

not
near hole

Fig. 2.

131

129. (New) The HVFET according to claim 128 further comprising

a third region of the first conductivity type disposed in the second region
adjacent to the source diffusion region.

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N.R.

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129. The HVFET according to claim 127 wherein the buried region is connected
to the substrate.

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130. (New) The HVFET of claim 127 further comprising:

a tap diffusion region of the second conductivity type disposed in the first region
near a perimeter boundary of the first region.

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131. (New) The HVFET according to claim 127 further comprising:

a second buried region of the first conductivity type disposed within the
substrate beneath the source diffusion region.

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132. (New) The HVFET according to claim 131 wherein the second buried
region extends laterally ^{to a region} ~~from the source diffusion region~~ under the channel region.

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133. (New) The HVFET according to claim 127 wherein the first and second
conductivity types are p-type and n-type, respectively.

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¹³⁷
134. (New) The HVFET according to claim ¹²⁹127 wherein the buried region includes one or more openings that connect the first and second conduction channels.

Cmt 18
¹³⁸
135. (New) The HVFET according to claim ¹²⁹127 wherein the source and drain electrodes include field plate members.

¹³⁹
136. (New) The HVFET according to claim ¹²⁹127 wherein the buried region comprises a plurality of buried layers that form a corresponding plurality of conduction channels.

N.R.